

# Patent [19]

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[54] **FLUID-CONTAINING FOREIGN MATTER TREATING DEVICE BY  
PHOTOCATALYST, PHOTOIRRADIATION METHOD AND WATER PURIFIER WITH  
REGENERATING FUNCTION UTILIZING THE METHOD**

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## [57] ABSTRACT

**PURPOSE:** To increase the contact area between fluid and photocatalyst and to improve a foreign matter treating effect in the device for removing the foreign matter contained in the fluid by photoirradiation in the presence of photocatalyst by arranging a photoirradiation means in the flow direction of the fluid in a passage.

**CONSTITUTION:** As for a treating device 2, a UV lamp 4 as a photoirradiation means is placed in the hollow part of a main-body vessel 2a while keeping a gap between it and the inner wall of the vessel 2a to pass a fluid. Meanwhile, the whole surface of the inner wall of the vessel 2a is covered with a photocatalyst 3. The fluid is introduced from an inlet pipe 1, passed through a passage demarcated between the vessel 2a and the lamp 4 and discharged from an outlet pipe 7. At this time, the fluid is irradiated with the light from the lamp 4 through a socket 5 and a terminal 6 and allowed to react with the photocatalyst 3, and harmful matter such as trihalomethane contained in the fluid is decomposed and removed. Consequently, the contact area between the fluid and photocatalyst 3 is increased, and the foreign matter treating effect is easily improved.

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